

IN THE CLAIMS:

Please amend the claims as follows:

Please cancel claims 1-59.

Please add the following new claims:

60. (New) A subterranean water sump structure comprising:

a substantially water impermeable member which is adapted, in use, to collect rainfall or other precipitation from above the ground and trap the water below the ground; and

at least one heat exchange pipe for carrying a heat exchange fluid and located, in use, so as to pass through water trapped by the impermeable member.

61. (New) The structure as claimed in Claim 60, in which the structure further comprises a ground trench lined by the water impermeable member.

62. (New) The structure as claimed in Claim 60, in which the impermeable member comprises a flexible membrane.

63. (New) The structure as claimed in Claim 60, in which the impermeable member comprises a rigid trough member.

64. (New) The structure as claimed in Claim 63, in which the trough member is formed from a material having a high thermal conductivity.

65. (New) The structure as claimed in Claim 60, in which the structure further comprises primary particulate material through which the at least one heat exchange pipe passes.

66. (New) The structure as claimed in Claim 65, in which the particulate material comprises crushed rock.

67. (New) The structure as claimed in Claim 65, in which the primary particulate material is overlaid by a water permeable layer of secondary particulate material.

68. (New) The structure as claimed in Claim 67, in which the secondary particulate material comprises crushed rock.

69. (New) The structure as claimed in Claim 67, in which the size of the secondary particles is greater than the size of the primary particles.

70. (New) The structure as claimed in Claim 60, in which a water permeable wear surface is formed above the water impermeable member.

71. (New) The structure as claimed in Claim 67, in which a water permeable wear surface is formed over the layer of secondary particulate material.

72. (New) The structure as claimed in Claim 70, in which the permeable wear surface comprises a pavement structure.

73. (New) The structure as claimed in Claim 60, in which the at least one heat exchange pipe comprises a plurality of heat exchange pipes.

74. (New) The structure as claimed in Claim 73, in which the pipes are mutually spaced.

75. (New) The structure as claimed in Claim 60, in which the at least one heat exchange pipe is buried approximately 1.5 meters below the surface of the ground in use.

76. (New) The structure as claimed in Claim 60, further comprising at least one diverter member positioned so as direct water to be trapped by the impermeable member in use.

77. (New) The structure as claimed in Claim 76, in which the at least one diverting member comprises a sheet of water impermeable membrane arranged to funnel water into the structure.

78. (New) The structure as claimed in Claim 60, further comprising a unidirectionally water permeable layer positioned to prevent evaporation of trapped water.

79. (New) The structure as claimed in Claim 78, in which the unidirectionally water permeable layer comprises a fabric.

80. (New) A subterranean water sump structure adapted to collect rainfall or other precipitation from above the ground and trap the water below ground, the structure comprising:

an excavated ground trench lined with substantially water impermeable material and in-filled with a primary particulate material for holding water; and

at least one heat exchange pipe for carrying heat exchange fluid and embedded in the primary particulate material.

81. (New) A heat pump system incorporating a structure of claim 60 or claim 80.

82. (New) A building which is climate-controlled by a heat pump system according to Claim 81.

83. (New) A method of forming a subterranean water sump structure, comprising the steps of:

providing a substantially water impermeable member for collecting rainfall or other precipitation from above the ground and trapping it below the ground;

providing at least one heat exchange pipes for carrying a heat exchange fluid; and

passing the at least one heat exchange pipe through an area in which water collected, in use, is trapped by the impermeable member.

84. (New) The method as claimed in Claim 83, in which the structure is formed by excavating a ground trench.

85. (New) The method as claimed in Claim 84, further comprising the step of filling the structure with primary particulate material.

86. (New) The method as claimed in Claim 85, further comprising the step of forming a water permeable wear surface above the particulate material.

87. (New) The method as claimed in Claim 83, further comprising the step of positioning one or more diverter members for directing water to be trapped by the impermeable member in use.

88. (New) A method as claimed in 83, further comprising the step of providing a unidirectionally water permeable membrane to prevent evaporation of trapped water.